Before the
Federal Communications Commission
Washington, D.C. 20554

In the Matter of	)	
	)	
Inquiry Concerning High-Speed Access to the	)	GN Dockets Nos. 00-185
Internet Over Cable and Other Facilities	)	
	)	
Internet Over Cable Declaratory Ruling	)	
	)	
Appropriate Regulatory Treatment for Broadband	)	CS Dockets No. 02-52
Access to the Internet Over Cable Facilities	)	

COMMENTS OF THE CONSUMER FEDERATION OF AMERICA, TEXAS OFFICE OF PUBLIC UTILITY COUNSEL, CONSUMERS UNION, AND MEDIA ACCESS PROJECT

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EXECUTIVE SUMMARY

BACKDOOR DEREGULATION OF ADVANCED TELECOMMUNICATIONS IS BAD LAW

These comments show that the Commission's Declaratory Ruling in the Cable Modem Proceeding is one of a broader set in which the Federal Communications Commission is attempting to illegally deregulate advanced telecommunications and repeal the procompetitive and consumer protection provisions of the Telecommunications Act of 1996.

Congress clearly defined advanced telecommunications separately from information services and intended that these services be regulated. It required the FCC to conduct a regulatory forbearance proceeding (under §10 of the Act) if it desired to eliminate regulation. The FCC has steadfastly refuses to do so because it could not pass the test Congress established for deregulation.

To deregulate Congress required that the FCC demonstrate for specific products and specific markets that:

- markets are sufficiently competitive to prevent the abuse of market power (unjust or unreasonably discriminatory charges, practices, classifications)
- regulation was not necessary for consumer protection, and
- forbearance from regulation is in the public interest.

The Commission could not find this to be the case because advanced telecommunications markets and high-speed Internet service markets are highly concentrated and dominated by a few facility owners who have engaged in anticompetitive and anti-consumer practices.

Unable to use the front door to deregulation that Congress provided, the Commission arbitrarily and illegally constructs a back door by invoking other sections of the Act (§706 and §230), but these do not provide it authority to deregulate.

§706 is misapplied and mischaracterized: §706 directs the Commission not to remove regulations but (where deployment remains untimely) to take immediate action to accelerate deployment by removing barriers to infrastructure investment and by promoting competition in telecommunications markets. Forbearance is mentioned, but a §10 proceeding is necessary.

§230 has no relevance. It dealt with privacy and does not even mention the word telecommunications. Even if it apply, it sought "to preserve the vibrant competitive free market that presently exists for the Internet and other interactive computer services." The competition that existed at the time was competition between Internet service providers using telecommunications services made available on a nondiscriminatory basis subject to Title II regulation.

For three decades the FCC policies that kept the telecommunications network open and required non-discriminatory interconnection and carriage for enhanced, computer and information services (the Computer Inquiries) were a cornerstone of the Internet. Open communications networks

- prevent centralized facility owners from engaging in strategic actions that could undermine competition and frustrate innovation;
- stimulate decentralized experimentation that gave rise to the Internet and a host of innovations that drove consumer demand, include the World Wide Web, web browsers, e-mail, instant messaging, file sharing, streaming, etc.; and
- promote civic discourse by making electronic mass communications available to ordinary citizens.

The FCC's failure to extend this principle to the advanced telecommunications service provided by cable companies and its current efforts to abandon this principle for telephone companies threatens to undermine these accomplishments and will stifle innovation and slow economic growth. Deregulating facility owners as the Commission's proposal inevitably does, would strangle the primary suppliers of services to the public—ISPs. Under this proposal an extremely small number of facility owners will be able to refuse to interconnect with and discriminate against unaffiliated ISPs allow facility owners to determine the nature of information that flows over their networks.

Cable owners have refused to provide non-discriminatory access and insist on:

- choosing a small number of ISPs who can sell a restrictive set of services;
- telling the ISPs what they can and (more importantly) cannot sell, particularly streaming video and end-user generated content and applications;
- controlling the customer relationship and the ability of non-affiliated ISPs to differentiate themselves; and
- placing independent ISPs in a price squeeze that stifles innovation on the Internet by charging a toll for access (the charge unaffiliated ISPs must pay for carriage) that is so high that there are few resources and little market left for new applications or content.

A complex; shared broadband environment poses challenges to the end-to-end principles that have created the open Internet, but legal and practical measures to preserve the fundamental nature of the Internet can be implemented under a flexible approach to Title II regulation.

- Preserving non discriminatory access to the network with maximum autonomy at the periphery.
- Architecture policies to prevent technology bias and support the largest number of unaffiliated ISPs and services.
- Commercial transport service based on a wholesale relationship between the ISP and the network owner that allows the ISP to have a direct relationship with the customer and control the home page.
- Pricing that requires the customer to pay "once" for service and prevents cross subsidization of affiliated ISPs and price squeezes on unaffiliated ISPs.

I. CONGRESS DEFINED THE RELATIONSHIP BETWEEN TELECOMMUNICATION AND INFORMATION SERVICE CLEARLY, THE COMMISSION HAS TURNED CONGRESSIONAL INTENT ON ITS HEAD

Joint Consumer Commenters have described the Federal Communications Commission's statutory construction of the definitions of information service, telecommunications and telecommunications services as legal gymnastics.[1] The Wisconsin Public Service Commission calls it legal jujitsu.[2] Whether the sport is described as gymnastics or jujitsu, whether the arena is wireline DSL or cable modem service, the Commission's game is the same, a play on words that fractures the clear language and intent of the statute.

The basic premise of the Declaratory Ruling[3] is that high speed Internet access service is a combination of information service and telecommunications. There clearly are two things going on when this service is delivered but the Declaratory Ruling is seriously mistaken in

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[1] "Comments and Reply Comments of Texas Office of Peoples Counsel, Consumer Federation of America, Consumers Union," *In the Matter of Inquiry Concerning High Speed Access to the Internet over Cable and Other Facilities,* Federal Communications Commission, GN Docket No. 96-262, December 12, 1999, January 12, 2000; "Comments Of Arizona Consumer Council, Center For Digital Democracy, Citizen Action Of Illinois, Citizens Utility Board Of Oregon, Consumer Action, The Consumer Federation Of America, Consumers Union, Democratic Processes Center, Florida Consumer Action Network, Illinois PIRG, Massachusetts Consumer Coalition, Media Access Project, New Jersey Citizen Action, Texas Consumer Association, Texas Office Of Public Utility Counsel, USaction," *In the Matter of Appropriate Framework for Broadband Access to the Internet Over Wireline Facilities Universal Service Obligations of Broadband Providers Computer III Further Remand Proceedings: Bell Operating Company Provision of Enhanced Services; 1998 Biennial Regulatory Review – Review of Computer III and ONA Safeguards And Requirements*, Federal Communications Commission, CC Dockets Nos. 95-20, 98-10 (hereafter Wireline Notice), May 3, 2002.

[2] "Comments of the Wisconsin Public Service Commission," Wireline Notice.

[3] In the Matter of Inquiry Concerning High-Speed Access to the Internet Over Cable and Other Facilities Internet Over Cable; Declaratory Ruling; Appropriate Regulatory Treatment for Broadband Access to the Internet Over Cable Facilities, Federal Communications Commission**,** GN Dockets Nos. 00-185, CS Dockets No. 02-52, March 15, 2002 (Hereafter, Cable Modem Notice).

how it draws the line between information service and telecommunications and fatally flawed in the way it proposes to treat the telecommunications component.

The Commission's misreading of the Act is readily apparent when it tries to distinguish between information services and telecommunications. Congress did not want the presence of telecommunications to be a lever to allow the Commission to extend regulation to information services, so it made a sharp distinction between the information service and the telecommunications that such a service would inevitably use. The Commission turns this logic on its head, going well beyond the definitions in the Act, to use the presence of information services to deregulate telecommunications.

A. DISTINGUISHING INFORMATION SERVICE FROM TELECOMMUNICATIONS

The series of interrelated definitions adopted by Congress is well known and, in our opinion, quite clear. Information services are defined as follows.

> Information service – The term 'information service' means the offering of a capability for generating, acquiring, storing, transforming, processing, retrieving, utilizing, or making available via telecommunications, and includes electronic publishing, but does not include any use of any such capability for the management control, or operation of a telecommunications system of the management of a telecommunications service.[4]

Congress recognized that information services would require some form of transmission. Congress recognized that information services would ride on telecommunications networks. Congress understood that the two would frequently (perhaps invariably) be combined but that did not mean they could not or should not be distinguished. Information services are defined by user controlled two-way activities over telecommunications networks. Information services are clearly distinguishable from

telecommunications in the sense that telecommunications is the movement of the information the user generates and directs. Moreover, Congress added that network capabilities used for management of the telecommunications communications system would not be considered part of the information service.

Congress recognized that telecommunications networks would be used for many purposes, and it specified how each use would be treated under the Act. One of the uses of the information capability or the network was the management of the flow of information services. The use by network owners of an information capability to manage the network was not to be considered an information service or to turn telecommunications services into information services. The fact that network operators would use these capabilities to manage the flow of information services does not change the definition of those services.

Telecommunications is the transmission of data, with or without manipulation for the purpose of managing the network.

> Telecommunications – The term telecommunications" means the transmission between or among points specified by the end user, of information of the user's choosing, without change in the form or content of the information as sent and received.

The Commission has been vague about these definitions,[5] consistently failing to understand or accept this clear distinction and in the companion Wireline Notice it finally and

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[4] Section 3, Definitions.

[5] The Commission recognizes that the previous analyses of these issues (Wireline Notice, para. 14) "left open significant questions regarding the treatment of Internet (and information) service providers that own their own transmission facilities and that engage in data transport over those facilities to provide an information service."

explicitly has gotten it wrong.[6] Here it simply ignores the distinction Congress made by declaring that in the case of cable modem service

> the telecommunications component is not, however, separable from the data-processing capabilities of the service. As provided to the end-user the telecommunications is part and parcel of cable modem service and is integral to its other capabilities.[7]

As a technical and legal matter, the telecommunications component is entirely separable from the data-processing component. Congress distinguished them quite clearly and went so far as to point out that capabilities might be used "for the management control or operation of the telecommunications system," which would not turn the telecommunications into information services. The Commission's claim that telecommunications is "part and parcel" or "integral" is neither a legal nor a technical conclusion, but a business decision of the cable companies who have collectively and in concert decided to withhold the telecommunications component from unaffiliated Internet service providers, while they use it deliver information services to the public.

It is obvious that cable operators are offering information services and telecommunications to the public for a fee – since they charge for cable modem service that is available throughout their service areas. It is only by improperly claiming telecommunications disappears in an inseparable bundle, that the Commission can avoid defining the telecommunications component as a telecommunications service.

> Telecommunications service – The term 'telecommunications service' means the offering of telecommunications for a fee directly to the public, or to such classes of users as to be effectively available directly to the public, regardless of the facilities used.

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[6] Wireline Notice, para. 21.

The intention of Congress to cast a broad and inclusive net in defining telecommunications service is conveyed by the wording. Congress cast a broad net by including the offer of service to a subclass of users who would in turn make it effectively available to the public. Moreover, Congress did not allow technology differences to be a basis for claiming that somehow telecommunications service was not being made available. Telecommunications is defined independently of the facilities used.

The Commission's fascination with and long discussion of the advanced nature of the telecommunications component of cable modem service[8] does not provide a loophole for the telecommunications component to escape being defined as a telecommunications service. Congress defined telecommunications as the capability to transmit data and "advanced telecommunications capability" is just one flavor of telecommunications. It is defined in the Act

> without regard to any transmission media or technology, as high-speed, switched, broadband telecommunications capability that enables users to originate and receive high quality voice, data graphics, and telecommunications using any technology.[9]

B. DECOUPLING TELECOMMUNICATIONS AND TELECOMMUNICATIONS SERVICES

As a legal matter, the Commission cannot make telecommunications disappear from wireline broadband Internet access service. Consequently, the Commission is forced to struggle with the distinction between telecommunications and telecommunications service. Citing the earlier muddleheaded thinking that the Commission admits has "not fully resolved"

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[7] Cable Modem Notice, para. 39.
[8] Cable Modem Notice, para. 10, .
[9] 706 (c)(1)

the issue, the Commission goes back to a position that telecommunications can be used, without being provided.

> The cable operator providing cable modem service over its own facilities, as described in the record, is not offering telecommunications service to the end user, but rather is merely using telecommunication to provide end users with cable modem service.[10]

Since telecommunications system do not occur freely in nature (indeed the Commission claims that high-speed telecommunications requires substantial effort to create) someone must be providing the telecommunications capability. By selling a bundle of services to the public, any component of which is not telecommunications, the Commission allows the telecommunications component to not be considered a service.

The business strategy of selling bundles of telecommunications and information services to the public, while withholding telecommunications from Internet service providers, enables cable companies to define themselves out of the obligations of Title II of the Act. As we pointed out in our Wireline Comments, the telephone companies need only withdraw their wholesale offerings of advanced telecommunications services bundled in their DSL offerings and they too will escape Title II obligations.

We have already shown that this is not a logical extension of the definitions provided in the Act. The Commission's reading of the Act is inconsistent with the logic that Congress clearly articulated. Congress clearly intended that the presence of the telecommunications input in the bundle not provide a basis for the Commission to try to regulate information services. The Commission twists this into the proposition that the presence of information services in the bundled compels the deregulation of the telecommunications input.

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[10] Cable Modem Notice, para. 41.

Congress clearly did not let broadband slip out of the web of definitions of information services and telecommunications. By taking this line of reasoning, the Commission invites a shell game in which bundles of services are created to strategically position telecommunications. Earthlink summarized the devastating impact that this would have on the fabric of telecommunications in its comments in response to the Cable Modem NOI.

> If the Commission were to accept the argument that an information service provided through an affiliate of the transport facility owner can be made available to the public without having the transmission service used to carry that information service to the public being considered a telecommunications service, it would provide a blanket waiver for all facilities-based telecommunications carriers to escape Title II regulation under the Act. Essentially, if it were to accept such an argument, the Commission would be sanctioning a shell game in which the transmission facility owner, by refusing to provide transmission services to any information service provider other than its own affiliate, would be able to provide information services indiscriminately to the public for a fee without becoming a common carrier subject to Title II of the Act. As discussed further below, the Commission and the courts have refused to accept such an argument in the past.[11]

Thus, the plain language of the statute strongly indicates that the entity providing telecommunications must be deemed to be offering it to the public for a fee if it offers a bundle including the telecommunications to the public or the component to any class of customers who offer it to the public. These definitions are woven tightly into the fabric of the Act and are critical to the essence of the policy that Congress intended. The proposed statutory construction turns the Act on its head, arbitrarily reversing Congressional intent and creating unnecessary conflicts with a host of clearly articulated policies adopted by the Congress.

[11] Earthlink, pp. 28, 29… 34.

We believe that the 9th Circuit Court of Appeals read the statute in its plain and clear language.

> Under the statue, Internet access for most users consists of two separate services. A conventional dial-up ISP provides its subscriber access to the Internet at a "point of presence" assigned a unique Internet address, to which the subscribers connect through telephone lines. The telephone service linking the user and the ISP is classic "telecommunications," which the Communications Act defines as "the transmission, between or among points specified by the user of information of the user's choosing, without change in the form or the content of the information as sent and received." A provider of telecommunications services is a "telecommunications carrier," which the Act treats as a common carrier to the extent that it provides telecommunications to the public, "regardless of the facilities used…"
>
> ISPs are themselves users of telecommunications when they lease lines to transport data on their own networks and beyond on the Internet backbone. However, in relation to their subscribers, who are the "public" in terms of the statutory definition of telecommunications service, they provide "information services," and therefore are not subject to regulation as telecommunications carriers…
>
> Like other ISPs, @Home consists of two elements: a pipeline (cable broadband instead of telephone lines), and the Internet service transmitted through that pipeline. However, unlike other ISPs, @Home controls all of the transmission facilities between its subscribers and the Internet. To the extent @Home is a conventional ISP, its activities are one of an information service. However, to the extent that @Home provides its subscribers Internet transmission over its cable broadband facility, it is providing a telecommunications service as defined in the Communications Act.[12]

The Commission should reverse its declaratory ruling and declare that the telecommunications component of high-speed Internet Access service is subject to the section 201 and 202 obligations of interconnection and non-discrimination. It should then issue a Further Notice of Proposed Rulemaking to develop a flexible mechanism for implementing these obligations.

[12] *AT&T v. City of Portland,* 216 F. 3d (9th Cir. 2000).

Telecommunication should be defined as the technical capability of the network to transmit data between two points unaltered. Properly addressed packets that arrive at the point of interconnection should be carried on a non-discriminatory basis to the end-user.

II. THE COMMISSION'S BACKDOOR DEREGULATION OF TELECOMMUNICATIONS SERVICE VIOLATES THE POLICY FRAMEWORK AND UNDERMINES THE PUBLIC POLICY GOALS ESTABLISHED BY CONGRESS

The Commission invokes a variety of public policy justification for allowing the advanced telecommunications component of cable modem service to escape from the obligation to provide nondiscriminatory interconnection and carriage under sections 201 and 202 of the Act. In so doing, the Commission misunderstands the history of the Internet and its dynamic competitive environment, which the Congress sought to preserve and extend, and misinterprets the public policy Congress sought to promote. It has not only turned the definitions upside down, it has turned the explicit intent of Congress on its head.

These errors in the Commission's proposal will combine to allow widespread abuse of market power in advanced telecommunications markets and undermine the dynamic environment of the Internet that has produced a vast array of innovations to drive service adoption. Allowing facility-owners to withhold and discriminate in providing access to advanced telecommunications services, as the Commission's proposal inevitably does, would strangle the primary suppliers of services to the public – Internet Service Providers (ISPs). Under the Commission's proposal an extremely small number of facility owners will be able to refuse to interconnect with and discriminate against all unaffiliated ISPs.

As a consequence, the Commission has launched this proceeding under the wrong section of the Telecommunications Act of 1996, for the wrong reason and which the Commission's decision should be judged. Consumers will lose their protections under the Communications Act because the Commission will deregulate an important area of telecommunications through a back door that Congress did not allow, when it could never sustain that deregulation if it came through the front door that Congress clearly provided.

The Congress recognized, as do we, that **real** competition is the best form of regulation for consumer protection. Moreover, and most critically, it articulated quite clearly the conditions under which public interest regulation could be exchanged for regulation by the market. In fact, in the comments filed by several of the Joint Consumer Commenters in the Notice of Inquiry in the Cable Modem proceedings,[13] we called on the Commission to conduct just such an inquiry. The Commission has not issued this Notice under those provisions of the Act and, therefore, exposes consumers to the worst of both worlds, a market that is disciplined neither by competition nor by regulation.

There are two primary sections of the Telecommunications Act of 1996 that the Commission cites as the basis for the proceeding – section 706 and section 230. Neither of these is the proper grounds for taking the action the Commission proposes.

A. SECTION 706 IS MISAPPLIED AND MISCHARACTERIZED

The Commission cites section 706 (a) which created an explicit obligation in public policy.

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[13] "Comments and Reply Comments of Texas Office of Peoples Counsel, Consumer Federation of America, Consumers Union," *In the Matter of Inquiry Concerning High Speed*

> The Commission and each State commission with regulatory jurisdiction over telecommunications services shall encourage the deployment on a reasonable and timely basis of advanced telecommunications capability to all Americans (including, in particular, elementary and secondary schools and classrooms) by utilizing in a manner consistent with the public interest, convenience and necessity, price cap regulation, regulatory forbearance measures that promote competition in local telecommunications markets, or other regulating methods that remove barriers to infrastructure investment.

Yet, Section 706 (b) also created an explicit process for the exercise of these authorities.

> The Commission shall, within 30 months after the date of enactment of this Act, and regularly thereafter, initiate a notice of inquiry concerning the availability of advanced telecommunications capabilities… In the inquiry, the Commission shall determine whether advanced telecommunications capability is being deployed to all Americans in a reasonable and timely fashion. If the Commission's determination is negative, it shall take immediate action to accelerate deployment of such capability by removing barriers to infrastructure investment and by promoting competition in the telecommunications market.

The Commission has made repeated inquiries into the deployment of advanced telecommunications capabilities and never arrived the negative answer that would support action under Section 706. It has not laid the groundwork for taking action under section 706. Even if it had, the actions proposed are misguided.

Section 706(a) of the Telecommunications Act codified Congress' intent that the Commission "encourage the deployment on a reasonable and timely basis of advanced telecommunications capability to all Americans." The Commission generally interprets Section 706 as a creating a bias toward deregulation. This interpretation mischaracterizes the law.

Access to the Internet over Cable and Other Facilities, Federal Communications Commission, GN Docket No. 96-262, December 12, 1999, January 12, 2000.

Section 706 directs the Commission not to remove regulations, but (where deployment remains untimely) to "take immediate action to accelerate deployment" by "removing barriers to infrastructure investment and by promoting competition in the telecommunications market." 47 USC §706(b). This is a far cry from the language used elsewhere in the statute, where Congress intended the Commission favor deregulation.[14]

By contrast, the ***first*** tool Congress suggests to the Commission in facilitating broadband deployment is "price cap regulation" – an intensely intrusive regulatory tool. *See* 47 USC §706(a). While the statute also lists "regulatory forbearance" as an available tool, it directs the Commission to employ other "measures that promote competition" and "other regulating methods" that facilitate deployment. *Id.* If regulatory forbearance is the tool to be used, Congress clearly identified the conditions for implementing such an approach.

B. SECTION 10 WOULD BE THE APPROPRIATE AUTHORITY, BUT THE COMMISSION'S PROPOSAL WOULD NEVER PASS THE STANDARD

It is interesting to note that the Commission eschews the clearest and most direct path to deregulating telecommunications that is specified in the Act. Section 10 of Title I, provides "regulatory flexibility" to forbear from regulation (one of the options identified in Section 706) stating that the

> Commission shall forbear from applying any regulation or any provision of this Act to a telecommunications carrier or telecommunications service, or class of telecommunications carriers or telecommunications services, in any or some of its or their geographic markets, if the Commission determines that –
>
> (1) enforcement of such regulation or provision is not necessary to ensure that charges, practices, classifications or regulations by, for, or in connection

[14] *See Fox Television Stations v. FCC,* 280 F.3d 1027 (D.C. Cir. 2002) *pet. for recon. pending* (interpreting language of Section 202(h) as expressing a Congressional preference for repealing rather than retaining regulations on media ownership).

with that telecommunications carrier or telecommunications service are just and reasonable and are not unjustly or unreasonably discriminatory;
(2) enforcement of such regulation or provision is not necessary for protection of consumers; and
(3) forbearance from applying such provision or regulation is consistent with the public interest.

It is obvious that Congress intended regulatory forbearance to be very carefully applied. The conditions for forbearance are stringent, not merely having to do with the speed of deployment, but addressing all of the broad purposes of the Act. The findings are specific to products and geographic markets, not broad policy goals. Section 10 is not an invitation to the exercise of market power – the imposition on the public of unjust or unreasonably discriminatory rates and practices. It requires the Commission to find that market conditions (competition) are such that abuse will not occur.

Reading sections 706 and 10 together, which the Commission must if it intends to forbear from regulation, provide a consistent set of public policy priorities. The Commission needs a substantial justification to forbear under section 706 before it can deny consumers the broad protections promoted under the Communications Act. If the Commission cannot find that the deployment of advanced telecommunications capabilities is not reasonable and timely, it should not tear up the consumer protections of the Act. In the alternative, if it finds that market forces have developed to a sufficient degree that the regulations no longer provide an independent benefit to consumers, it can forbear.

The legal context is important because it goes to the heart of the economic reality we will discuss below. The Commission is trying to solve a problem that does not exist (unreasonable or untimely deployment), at great cost to the consumer and the public interest

(loss of the consumer protections of the Act and of the vibrant free market that presently exists for the Internet and other interactive computer services).

If there is a problem in the spread of high-speed Internet adoption, it is not a supply-side or facility problem, but that is what the Commission is invoking to deregulate telecommunications. The problem is on the demand-side. Because the Commission has failed to regulate the telecommunications component of cable modem service and the incumbent local telephone companies have been dragging their feet on opening their local networks, especially as it applies to high-speed Internet access, we do not have sufficient competition in high-speed Internet services (not facilities). The dominant firms have failed to develop applications and content that uniquely exploits the capabilities of high-speed networks. Since these markets are highly concentrated, monopolies or duopolies in many cases, there is insufficient competitive pressure and prices have been rising far faster than inflation. The Commission proposal, which strengthens the hand of facility owners at the expense of unaffiliated Internet service providers, can only make matters worse, not better.

C. THE COMMISSION'S TENTATIVE CONCLUSION TO FORBEAR FROM REGULATING CABLE MODEM SERVICE EVEN IF IT IS CLASSIFIED AS A TELECOMMUNICATIONS SERVICE IS NOT SUPPORTED BY THE LEVEL OF ANALYSIS REQUIRED BY PREVIOUS COMMISSION NPRMS.

Section 10 lays out a specific three-prong test that the Commission must apply when deciding whether or not to exercise forbearance authority. First the Commission must determine that enforcement is not necessary to ensure "just and reasonable and not unjustly or unreasonably discriminatory" … "charges, practices, classifications, or regulations." Second, the Commission must determine that enforcement of the regulation is not necessary for consumer protection. Third, the Commission must determine that forbearance is in the public

interest. The statute instructs the Commission to consider whether forbearance "will promote competitive market conditions" as a factor in determining if forbearance is in the public interest.[15]

In the March 14th NPRM the Commission tentatively concludes that forbearance is justified based on tentative conclusions that all three prongs of the statute call for forbearance. The Commission offers the same reasons under each prong to justify forbearance: "cable modem service is still in its early stages; supply and demand are still evolving; and several rival networks providing residential high-speed Internet access are still developing."[16] In addition, under the public interest prong of the test the Commission "tentatively concludes that the public interest would be served by the uniform national policy that would result from the exercise of forbearance to the extent cable modem service is classified as a telecommunications service."[17]

The Commission requires that petitioners seeking forbearance "support … [their] requests with more than broad, unsupported allegations."[18] The Commission itself adheres to the same standards when tentatively concluding forbearance is justified when initiating forbearance.[19] For example, when the Commission tentatively concluded to forbear the application of tariff filing requirements to non-dominant interexchange carriers the Commission carefully considered each prong of §10, made assertions based on cited

[15] 47 U.S.C. § 160.
[16] ¶ 95.
[17] ¶ 95.
[18] *In the Matter of Hyperion Telecommunications, Inc. Petition Requesting Forbearance*, 12 FCC Rcd 8596 (1997) at ¶ 1.
[19] *See, e.g., In the Matter of 2000 Biennial Regulatory Review,* 15 FCC Rcd 20008 (2000).

evidence, and showed a nexus between the assertions and the tentative conclusion that the prong required.[20]

Under prong one the Commission tentatively concluded that non-dominant interexchange carriers did not need to file tariffs because firms lacking market power are unlikely to behave anti-competitively because they would lose customers. The Commission supports this assertion by citing to numerous reports, orders, decisions, records and extensive findings.

In the March 14th NPRM the Commission made 'broad, unsupported allegations' to justify forbearance.[21] The Commission failed to explain how it's assertions that "cable modem service is still in its early stages; supply and demand are still evolving; and several rival networks providing residential high-speed Internet access are still developing" justified it's tentative conclusion that regulations were not necessary to ensure just, reasonable, and non-discriminatory practices.[22] The Commission failed to articulate the relationship between these factors and the tentative conclusion that the first prong was satisfied. The Commission failed to point to any facts or evidence to demonstrate these assertions.[23]

The same contrast is present in the respective analysis of the second prong of the statute. In the Tariff NPRM the Commission based the tentative conclusion that tariff filings were not necessary to protect consumers because the Commission "consistently found that the imposition of tariff obligations in these circumstances stifles price competition and service

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[20] *See In the Matter of Policy and Rules Concerning Interstate, Interexchange Marketplace Implementation of Section 254 (g) of the Communications Act of 1934,* 11 FCC Rcd 7141 at ¶ ¶ 28-32.
[21] ¶ 95.
[22] ¶ 95.
[23] ¶ 95.

and marketing innovations" and "these conclusions remain valid in today's more competitive domestic, interexchange market."[24] Again, the Commission supported this finding by citing to previous reports and orders.

In the March 14th NPRM the Commission again failed to explain how it's assertions that "cable modem service is still in its early stages; supply and demand are still evolving; and several rival networks providing residential high-speed Internet access are still developing" justified it's tentative conclusion that regulations are not necessary to protect consumers. The Commission did not point to any facts or evidence to justify how these factors illustrated consumers would not be left unprotected.[25]

Again, for the public interest prong of the statute the same pattern exists. In the Tariff NPRM the Commission supports it's belief that forbearance would promote competition and deter price coordination by citing findings from the Sixth Report and Order.[26] The Commission also explained how forbearance would promote competitive market conditions thereby promoting the public interest.[27] In the March 14th NPRM the Commission failed to illustrate how the cited factors ("cable modem service is still in its early stages; supply and demand are still evolving; and several rival networks providing residential high-speed Internet access are still developing" and "the public interest would be served by the uniform national policy that would result from the exercise of forbearance to the extent cable modem service is

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[24] *See In the Matter of Policy and Rules Concerning Interstate, Interexchange Marketplace Implementation of Section 254 (g) of the Communications Act of 1934,* 11 FCC Rcd 7141 at ¶ 29.
[25] ¶ 95.
[26] *See In the Matter of Policy and Rules Concerning Interstate, Interexchange Marketplace Implementation of Section 254 (g) of the Communications Act of 1934,* 11 FCC Rcd 7141 at ¶ 30.
[27] *Id.* at ¶ 31.

classified as a telecommunications service") will promote the public interest.[28] The Commission also failed to support these assertions with evidence.[29]

III. OPEN COMMUNICATIONS NETWORKS ARE CRITICAL TO DYNAMIC INNOVATIONS AND VIBRANT CIVIC DISCOURSE

A. SECTION 230 HAS NO RELEVANCE TO THE PROPOSED POLICY AND IF IT DID, IT WOULD COMPEL THE COMMISSION TO DO EXACTLY THE OPPOSITE OF WHAT IT HAS PROPOSED

Having failed to walk through the door to regulatory forbearance that Congress fashioned, the Commission seeks a back door to deregulation through section 230. The second justification that the Commission notes is the policy contained in Section 230 (b) of the Act. In this section Congress declared:

> It is the policy of the United States –
>
> (1) to promote the continued development of the Internet and other interactive computer services;
>
> (2) to preserve the vibrant competitive free market that presently exists for the Internet and other interactive computer services, unfettered by Federal or State regulation…

This section does not address telecommunications in any way. Indeed, the word telecommunications does not appear in the section and it is entitled "protection for private blocking and screening of offensive materials." Yet the Commission is attempting to use it as a cover to deregulate telecommunications. Reliance on this section fundamentally misinterprets Congressional intent. At the time Congress declared this policy, the telecommunications network on which the Internet rode was thoroughly regulated and the Internet and interactive computer services were not. What Congress clearly intended to do

[28] ¶ 95.

was to prevent the regulation of telecommunications from extending to the Internet, rather than visa versa. The vibrant competition that existed at th time was between Internet Service Providers using telecommunications services rendered open based on Title II regulation.

In this and a related proceeding, the Commission has attempted to alter the meaning of this plain language directing the Commission to make full use of its regulatory toolkit by relying on Sections 230(a)(4) and 230(b)(2) of the Communications Act.[30] These sections, also added in 1996, find that the Internet has flourished "with a minimum of government regulation," §230(a)(4), and announce a policy that "the Internet" remain "unfettered by Federal or State regulation." §230(b)(2).

These provisions have nothing to do with the Commission's Title II regulation of telecommunications services or with the Commission's requirements under Section 706 to ensure the timely deployment of broadband. Congress enacted these provisions as part of the Communications Decency Act of 1996, an amendment considered separately from the bulk of the 1996 Act.[31] The context makes it clear that Congress intended this policy to apply to those providing information services and deploying innovative new services and content on the Internet. Congress did not intend these policies to apply to the underlying networks, access to which made development of the Internet (as defined by Section 230) possible.

Congress knew that the Internet and other information services resulted from the Commission's *Computer* proceedings. Indeed, Congress deliberately chose to leave this

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[29] ¶ 95.

[30] . *Appropriate Regulatory Treatment for Broadband Access to the Internet Over Cable Facilities*, CS Docket No. 02-52 (released March 15) ¶4.

[31] *See* Robert Cannon, *The Legislative History of Senator Exon's Communications Decency Act: Regulating Barbarians on the Information Superhighway*, 49 Federal Communications Law Journal 51 (November 1996).

regulatory regime in place.[32] The Commission cannot fairly read Section 230 to provide separate instruction to repeal these regulations, since it merely requires the Commission to preserve the status quo. 47 USC §230(b)(2).

Consumer Commenters and many others have argued that deregulating telecommunications will be the single greatest threat to "the vibrant free market that presently exists for the Internet and other interactive computer services" since its inception, because it unleashes the market power of an extremely small number of telecommunications providers to favor their affiliated Internet Service Providers (ISPs) at the expense of the thousands of unaffiliated providers.

B. COMMISSION POLICY REQUIRING NON-DISCRIMINATORY ACCESS WAS CENTRAL TO THE VIBRANT COMPETITIVE FREE MARKET FOR THE INTERNET

Any discussion of public policy toward the industrial organization of the communications industry must start from the accomplishments of intramodal competition that was codified in the 1996 Act. There is a very cruel irony in the Commission's apparent desire to give more power and incentives to facility owners, primarily in the form of intermodal competition, largely at the expense of intramodal competition. Intramodal competition in communications is nothing more than an open communications platform in which content suppliers and applications developers compete for consumer attention and business over communications systems that are made available on a non-discriminatory basis. This approach to intramodal competition has been remarkably successful in the past several decades.

[32] *See* 47 USC §251(g).

Under the aegis of the Computer Inquiries, intramodal competition produced an essential ingredient for the flowering of the commercial Internet – open communications platforms. This policy struck an extremely effective balance between the obligation to provide non-discriminatory interconnection and carriage under the Communications Act and deregulation of enhanced services. So effective was it that Congress codified its terms and definitions in the 1996 Act.

The Commission is now prepared to abandon what is arguably the most successful policy in the agency's history in a misguided belief that only by tipping the scales sharply in favor of facility owners, at the expense of content suppliers and applications developers, can more facilities be built. The results will be disastrous. The Commission claims it will help the upstarts, but it will dramatically increase the power of incumbents, exactly the opposite of what the 1996 Act intended. Dominant facility owners will become gatekeepers, driving customers to affiliated content suppliers, and protecting incumbent market power over services by foreclosing or controlling innovations that threaten to compete with their core products, thereby slowing innovation.

There must be no mistake about the critical role that government policy played in the process of creating this new information environment. The flexibility and fluidity we have achieved in the information age is in part a result of severing the link between the physical facilities and the software, applications and content. By allowing facility owners to reassert control over the higher layers, the FCC approach would slow and create a drag on the higher layers.

It has long been recognized that the economic characteristics of communications networks render it highly likely that communications markets will not be made up of

numerous companies competing vigorously (atomistically competitive).[33] Rather, they tend, at best to be tight, differentiated oligopolies or monopolistically competitive,[34] or natural monopolies.

Public policy has been centrally concerned with preventing the abuse of the market power stemming from small numbers. At various times and in different layers, this policy has included structural regulation of ownership, setting standards, requiring carriage of programming, public interest obligations, regulation of rates, and the like. In the last several decades, promoting competition at all layers of the communications platform through a wide range of mechanisms has become a focal point of policy.

One of the more consistent obligations has been non-discriminatory carriage, ensuring that communications platforms are open and allowing the flow of information. In the most recent iteration of this policy that led to the development of the Internet, we find that the deeper the principle of openness is embedded in the communications system, the greater the ability of information production to stimulate innovation.

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[33] Shapiro Carl and Hal R. Varian. 1999. *Information* R*ule*s. Cambridge: Harvard Business School Press), pp. 22-23.

> Information is costly to produce but cheap to reproduce.
> Once the first copy of an information good has been produced, most costs are sunk and cannot be recovered.
> Multiple copies can be produced at roughly constant per-unit costs.
> There are no natural capacity limits for additional copies.
> These cost characteristics of information foods have significant implications for competitive pricing strategy.
> The first and most important point is that markets for information will not, and *cannot,* look like textbook perfect competitive markets in which there are many suppliers offering similar products, each lacking the ability to influence prices.

[34] Shapiro and Varian, pp. 28, 54, 87-89,Joel Waldfogel, *Who Benefits Whom in Local Television Markets?* November 2001, Roundtable On FCC Ownership Policies October 29, 2001. *Preference Externalities: An Empirical Programming to Minorities*, (NBER, 2001) with Lisa George, *Who Benefits Whom in Daily Newspaper Markets?,* (2000); as well as the statement *Comments on Consolidation and Localism* (2001).

> The government's activism imposed a principle analogous to [end-to-end] design on the telephone network. Indeed, though it masquerades under a different name (open access), this design principle is part and parcel of recent efforts by Congress and the FCC to deregulate telephony... By requiring the natural monopoly component at the basic network level to be open to competitors at higher-levels, intelligent regulation can minimize the economic disruption caused by that natural monopoly and permit as much competition as industry will allow.[35]

Just as we have learned that embedding openness deeply in the communications platform can play a powerful role in freeing innovation, we should recognize that allowing market power to be exercised could have particularly chilling effects on competition in communications markets.

Thus, a determined commitment to open communications networks was critical to the widespread development of the Internet. It is clear that the communications platform of the Internet was founded on, and thrived on, the principle that facility owners in the physical layer could not discriminate against innovators or speakers. This was accomplished through government policy.

> The FCC allowed specialized providers of data services, including Internet Service Providers (ISPs) and their customers, access to raw network transmission capacity through leased lines on cost-effective terms. Regulatory policy forced open access to networks whose monopoly owners tried to keep closed. The resulting competition allowed the FCC to free the service

[35] Mark Lemley and Lawrence Lessig, "End of End-to-End: Preserving the Architecture of the Internet in the Broadband Era," *UCLA Law Review, 48 (2001)*, p. 7. The Lemley and Lessig piece is a direct response to Written Ex Parte of Professor James B. Speta at 1, In re Application for Consent to the Transfer of Control of Licenses MediaOne Group, Inc. to AT&T Corp. (FCC Dec. 15, 1999) (No. 99-251), James B. Speta, The Vertical Dimension of Cable Open Access, *University of Colorado Law Review,* 71 (2000); Phil Weiser, Competing Paradigms in Telecommunications Regulation, *University of Colorado Law Review,* 71 (2000), which were responses to an earlier piece Mark Lemley and Lawrence Lessig, Written Ex Parte: In the Matter of Application for Consent to Transfer Control of Licenses of MediaOne Group Inc. to AT&T Corp., Federal Communications Commission, CS Docket No. C99-251, November 10, 1999 (hereafter, Lemley and Lessig, MediaOne; numbers in parentheses refer to paragraphs).

providers from detailed regulation that would have kept them from using the full capabilities of the network in the most open and free manner.
Thanks to the enduring FCC policy of openness and competition, specialized networks and their users could unleash the Internet revolution. Open network policy assured the widest possible user choice and the greatest opportunities for users to interact with the myriad of emerging new entrants in all segments of the network. To be sure, the FCC strategy emerged haltingly but its direction never changed. Indeed, the Commission consistently backed cost-based access to the network (initially through leased lines and later through unbundled network elements). The de facto result of this policy, and of more conscious choices symbolized by the *Computer III* policies, was to prevent phone company monopolies from dictating the architecture of new data-related services. The Commission thus supported competition and innovation, time and again, by unfailingly keeping the critical network infrastructure open to new architectures and available to new services on cost-effective terms. The instruments of FCC policy were to make leased lines (and, lately, network elements) available on cost-oriented terms and to forebear from regulating Internet and other data services. This steady policy set in motion, and sustained, a virtuous cycle of cumulative innovation, new services, infrastructure development, increasing network usage with evident economic benefits for the U.S. economy.[36]

Even if the Commission is not ready to embrace the proposition that the cable "pipeline" is a telecommunication facility, the essential point is that policy of open telecommunications networks, including the mandate for nondiscriminatory interconnection pursuant to ONA/CEI is what has largely allowed the "narrowband" Internet to be as vibrant and competitive as it is today. It is hard to see how closed cable networks can obtain the same result in a broadband environment.[37]

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[36] Bar, et. al., Bar, Francois, et. al., 1999. Defending the Internet Revolution in the Broadband Era: When Doing Nothing is Doing Harm, August.

[37] NorthNet, Inc., *An Open Access Business Model For Cable Systems: Promoting Competition And Preserving Internet Innovation On A Shared, Broadband Communications Network, file at the Federal Communications Commission*, Ex Parte, In the Matter of Application of America Online Inc. and Time Warner, Inc. for Transfers of Control, Federal Communications Commission, CS-Docket No. 0030, October 16, 2000 (hereafter NorthNet), Earl W. Comstock and John Butler, "Access Denied: The FCC's Failure to Implement Open Access as Required by the Communications Act," *Journal of Communications Law and Policy*, Winter 2000.

Lessig is blunt about the government's role, claiming, "[p] hone companies…did not play… games, because they were not allowed to. And they were not allowed to because regulators stopped them."[38]

> We certainly do not claim that a communications network would have been impossible without the government's intervention. We have had telecommunication networks for over a hundred years, and as computers matured, we no doubt would have had more sophisticated networks. The design of those networks would not have been the design of the Internet, however. The design would have been more like the French analogue to the Internet--Minitel. But Minitel is not the Internet. It is a centralized, controlled version of the Internet, and it is notably less successful.[39]

C. THE COMMISSION FAILS TO UNDERSTAND THE VALUABLE ROLL PLAYED BY ISPS IN THE INETERNET "ECOLOGY"

The Commission purports to act in the interest of speeding broadband deployment pursuant to Section 706 and preserve vibrant competition under section 10. It does so in shocking ignorance of a vital sector of the Internet "ecology," independent Internet Service Providers (ISPs). These small, entrepreneurial enterprises play a critical roll in facilitating deployment, expanding adoption by the public and servicing niche markets. The persistent existence of small ISPs in narrowband, despite predictions of their imminent demise since the mid-1990s, speaks to the value these ISPs have.

1. ISPs Play A Valuable Roll In Facilitating Deployment

A brief reading through the comments field in the Commission's *Wireline Proceeding*, *see Appropriate Framework for Broadband Access to the Internet Over Wireline Facilities*, Docket No. 02-33, demonstrates the importance of independent ISPs in stimulating adoption by the public of the Internet, as well as provisioning rural markets, niche markets, and other

[38] Lessig, *The Future of Ideas* (New York: Random House, 2001, p. 148.

markets where incumbent monopoly cable and monopoly telephony providers have found it too expensive to deploy.[40]

Not only does the closed access model restrict deployment of the leading technology, but Scott Cleland, a prominent industry analyst, argues that it prevents intermediate technologies that could fill market needs.

> And why is broadband service deployment so slow? Well, government policy only fosters convergence investment *within* industries (i.e., within regulatory regimes). It discourages *cross-industry* convergence investment by competitors. For example, the government inadvertently is discouraging the deployment of ISPS-marketed, hybrid modems that could rollout broadband service faster and cheaper to the national mass market than either cable modes or DSL. Hybrid broadband modems use the best of both plants' *existing capabilities*—cable's high speed downstream path with the telco's reliable upstream path … but only if regulators allow competitors access to both duopoly last-mile facilities, not just the telco pipe. Schizophrenic broadband policy if unchanged, preordains a duopoly market where most American consumers will have to wait years unnecessarily while cable upgrades its one-way broadband plant for two-way and telcos upgrade their two-way narrow band plant for broadband.[41]

Moreover, the FCC's failure to act thus far has inhibited the deployment of other broadband technology. For example, as we explained in the Petition to Deny the AOL/Time Warner Merger, AOL's fear that it would be prevented from obtaining high-speed access to its customers prompted it, at least in part, to purchase Time Warner. AOL's deals with xDSL

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[39] Lemley and Lessig, "End of End-to-End, p. 7.

[40] *See, e.g.*, Comments of California Internet Service Providers, Comments of Texas Internet Service Providers, Comments of TDS Telecommunications Corp., Comments of the Western Alliance. *See also* Lisa Napoli, "Broadband By the Bootstraps," MSNBC June 5, 2002, http://www.msnbc.com/news/761972.asp?0pu=70 (describing how small community near Denver, Colorado, used existing DSL open access requirements to provide broadband services for themselves when neither cable or ILEC would deploy).

[41] Scott C. Cleland, *Convergence Diverted*, (Legg Mason Precursor Research March 30, 1999) (cited in *Petition to Deny* at 96).

providers, obtained under the Commission's open access policies, were expected to drive deployment of this service.[42]

2. ISPs Provide Valuable New Services

ISPs themselves offer innovative services that further the "diversity of media voices" Congress instructed the Commission to promote with its policies. 47 USC §257(b). For example, ISPs exist that advertise enriched content and server-based filtering that matches one's religious preferences.[43] Members of the public generally, have a First Amendment right to avail themselves of such services.

Commentors and many others have described the benefits to technical innovation that an open high speed Internet will bring. Specifically, as CU *et al.* noted in its Petition to Deny the AOL/Time Warner Merger, economists at Berkeley have described why the current Internet has been so productive:

> Open infrastructure policy fostered user-driven innovation. This meant that the principal sources of new ideas driving economic growth emerged from a long-term process of experimentation and learning, as business and consumer users iteratively adopted and shaped application of information technology and E-commerce.[44]

They further explain:

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[42] *Petition to Deny* at 27. For a thoughtful and important discussion of the how open access is more profitable for cable operators and for the economy as a whole, *see* Jeffrey Mackie-Mason, "Investment in Cable Broadband Infrastructure: Open Access is Not an Obstacle" (Nov. 5, 1999) found at http://www.opennetcoalition.org/press/jmmwhi.pdf.

[43] *See* http://www.christianliving.com (advertising itself as "a Christian AOL"); http://site.safelines.net/ (advertising "Koshernet" and promising Jewish-based content controls).

[44] Bar, *et al.* "Defending the Internet Revolution in the Broadband Era: When Doing Nothing is Doing Harm," E-conomy Working Paper No. 12 at 2 (Berkeley Roundtable on the International Economy August 1999) (footnotes omitted) found at: //e_conomy.berkeley.edu/publications/wp/ewp12.pdf. (cited in Consumers Union *et al.*

> Diversity of experimentation and competition on an increasingly open network were key, since nobody could foresee what would eventually emerge as successful applications. Openness allowed many paths to be explored, not only those which phone companies, the infrastructure's monopoly owners, would have favored. Absent policy-mandated openness, the Regional Bell Operating Companies (RBOCs) and monopoly franchise CATV networks would certainly have explored only the paths of direct benefit to them. It is doubtful that without such policy-mandated openness the Internet Revolution would have occurred.[45]

Similarly, in an *ex parte* filing at the Commission in the AT&T/MediaOne proceeding, Professors Lessig and Lemley state:

> The effect of these Internet design principles—including, but not exclusively, End-to-End—has been profound. By its design, the Internet has enabled an extraordinary creativity precisely because it has pushed creativity to the ends of the network. Rather than relying upon the creativity of a small group of innovators who work for the companies that control the network, the End-to-End design enables anyone with an Internet connection to design and implement a better way to use the Internet. By architecting the network to be neutral among uses, the Internet has created a competitive environment where innovators know that their inventions will be used if useful. By keeping the cost of innovation low, it has encouraged an extraordinary amount of innovation.[46]

We believe that a convincing argument has been made that among the most critical conditions for the success of the Internet was an open, ubiquitous, high quality communications network. The network was interconnected and accessible to producers and consumers, free from the domination of centralized network operators and not balkanized by proprietary standards. Decentralized activities and widespread experimentation were encouraged by very few restrictions on use.

Petition to Deny AOL/Time Warner Merger, CS Docket 00-30 (filed April 26, 2000) at 79 ("*Petition to Deny*"))

[45] Bar *et al.* at 8.

[46] Lemley & Lessig at ¶ 21.

This underlying condition opened the door to the growth of a whole new industry, Internet service providers, that played a key role in the successful commercialization of the Internet. Internet service providers numbered about 500 in the late 1980s when the commercialization began, grew to between 7,000 and 8,000 at the turn of the century.[47] Buying wholesale telecommunications service from telephone companies and selling basic Internet access combined with a variety of additional services to the public, they translated the complex technologies that had to be combined to use the Internet into a mass market service.[48]

Once the Internet was commercialized, they rapidly covered the country with dial-up access and translated a series of innovations into products and services that were accessible and useful to the public, quickly turning the Internet into a mass market product. They made the Internet accessible to the public and drove adoption.

Allowing closed communications networks to squeezed out ISPs will undermine the dynamic, competitive nature of the Internet. Lemley and Lessig describe the disincentives in detail:

> Innovators are less likely to invest in a market where a powerful actor has the power to behave strategically against it. Innovation in streaming technologies, for example, is less likely when a strategic actor can affect the selection of streaming technologies, against new, and competitive systems.
>
> Whether, as a software designer, it makes sense to develop ... applications depends in part upon the likelihood that they could be deployed in broadband cable contexts. Under the End-to-End design of the Internet, this would not be a question. The network would carry everything; the choice about use would

[47] Early counts are discussed in Mark Cooper, *Expanding the Information Age for the 1990s: A Pragmatic Consumer View* (Consumer Federation of America, American Association of Retired Persons, January 11, 1990). Since the mid-1990s, annual counts of ISPs have been published in *Network World*.

> be made by the user. But under the design proposed by the merged company, AT&T affiliates would have the power to decide whether these particular services would be "permitted" on the cable broadband network. Cable has already exercised this power to discriminate against some services. They have given no guarantee of non-discrimination in the future. Thus if cable decided that such services would not be permitted, the return to an innovator would be reduced by the proportion of the residential broadband market controlled by cable.[49]

Closed cable broadband systems will eliminate consumer choice such as server-based filtering systems and variations among service offerings in important areas such as privacy. Filtering software can help assure parents that their children will not be exposed to undesirable content.[50] It is most consistent with First Amendment values to allow parents as much control as possible over that choice. Closed access cable systems, however, deny parents the option of using "server-based" filtering, a technology which may prove to be the most effective mechanism to control what material is available to their children on the Intern-et. Development of such devices can, in the view of many, promote free speech by protecting children while permitting the Internet to provide unfiltered access for those who wish to receive constitutionally protected material which is offensive to others.

While cable-affiliated ISPs offer their own software filtering option, this does not provide the same degree of security as a server which does not let targeted material through for ***any*** customer. For example, Dotsave.com, one of the increasing number of server-based filtered ISPS's, each of which varies in taste and philosophy, explains that "Filtering is done at our servers, making it difficult, if not impossible, for even the most advanced computer user to 'hack' through...." http://www.dotsave.com/faq.html. Families have a fundamental right to

[49] Lemley & Lessig at ¶¶ 59, 61

chose the protections for their children that best comport with their own moral and religious standards. In an open model, parents can chose server-based filtering that best matches their particular beliefs.[51]

Moreover, competitive ISPs will open up broadband services to a broader range of users. They can market to, and provide better customer service for, citizens who might otherwise be left on the wrong side of the digital divide. For example, Cuban-Americans have different needs than Mexican-Americans and citizens of Puerto Rico. Cultural impediments may mean that a single ISPS with one Spanish language marketing staff will miss many of these new customers, leaving others outside the digital environment.

IV. INDUSTRY MODELS FOR IMPLEMENTING CLOSED COMMUNICATIONS PLATFORMS

A. FORECLOSING COMPETITION FOR HIGH-SPEED INTERNET ACCESS SERVICE

The anticompetitive and discriminatory practices of the cable operators have been demonstrated to the Commission time and again.[52] Over the course of the past six years,

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[50] This technology is not without controversy, especially when it has been employed in public fora. *See*, *Mainstream Loudon v. Board of Trustees of the Loudon County Library*, 24 F. Supp.2d 552 (E.D. Va. 1998) (rejecting public library's imposition of filtering software).

[51] For example, Christian parents concerned about access to sites they consider not merely pornographic, but also blasphemous, may use any of a number of Christian ISPS services offering server-based filters. *See, e.g.*, http://www.angelsonline.net, http://www.1lord.net. Mormon parents will likely prefer filtering more in line with their own religious beliefs, *see* http://www.lds.net. There is at least one service designed to meet the needs of Orthodox Jewish parents. See, http://www.thekosher.net. By contrast, others may desire filtering with no religious orientation. *See, e.g.,* http://www.netjava.com/ChoiceNe.htm (offering non-sectarian filtering).

[52] "Joint Comments," Wireline Notice; 2000. "Petition to Deny of Consumer's Union, Consumer Federation of America, Media Access Project, and Center for Media Education." *In the Matter of Application of America Online Inc. and Time Warner, Inc. for Transfers of Control*, Federal Communications Commission, CS-Docket No. 0030, April 26, 2000.

cable operators' commercial interests have failed to produce anything on their networks that even vaguely resembled the vibrant competitive market for the Internet that existed in 1996, to which the Act refers.

There are no more than a handful of independent ISPs who have been allowed to sell high-speed Internet access over cable's advanced telecommunications network. The terms and conditions under which these few are allowed to do so are so onerous that the independent ISPs have virtually no ability to compete with the incumbent cable operators.

The impact of the market foreclosure on the high speed Internet access market has been devastating (see Exhibits 1 and 2). In the earliest days of the commercial Internet there were about 500 online data service providers. This grew quickly to 2000 and then to over 7,000. The density of ISPs was high as commercialization began, but as the market grew it stabilized. Throughout the history of the commercial narrowband Internet, the number of service providers was never less than 10 per 100,000 customers. At present, and for most of the commercial history of the industry, there have been 15 or more ISPs per 100,000 subscribers.

This pattern has been completely altered because of foreclosure on the high-speed Internet. For cable modem service there is less than 1 Internet service provider per 100,000 customers. While the number is higher for DSL facilities, there are still considerable problems of access and anticompetitive practices in that market as well.[53] The cable modem environment is simply not the vibrant free market for the Internet that Congress referred in the 1996 Act. It is absurd for the Commission to argue that the commercial foreclosure being practiced by cable modem operators promotes Congress' goal.

The foreclosure of the market to independents is even more profound than these numbers indicate. Approximately 95 percent of the high-speed Internet access service customers are served by ISPs affiliated with either cable companies or telephone companies.[54] The fact that control over the wires is the cornerstone of this market foreclosure is demonstrated by the failure of the cable and telephone affiliated ISPs to have any success in the competitive narrowband Internet market. Cable companies have not sold Internet service in any product and geographic market where they do not control a monopoly wire. Telephone companies have done very poorly as ISPs in the dial-up market. Consequently, 95 percent of the customers in the dial-up market take their service from independent IPSs – treating AOL as an independent in the dial-up market. In other words, incumbent monopolists have a 95 percent market share where they can leverage their market power over their wires, and a 5 percent market share where they cannot.

It may well be that the Internet service market was due for some consolidation. However, the process we observe is more like strangulation through the exercise of market power. By cutting off access to advanced telecommunications service – the oxygen of the Internet market – facility-owners have eliminated the competition at the level of service.

B. COMMERCIAL ACCESS IS TANTAMOUNT TO FORECLOSURE

The Commission twice notes that cable companies have promised to allow click through access to the Internet as a critical measure to preserve the nature of the Internet, but

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[53] "Joint Comments," Wireline Notice.

[54] Press accounts give detailed estimates of major ISPs. The number of subscribers to independent ISPs is put at 500,000 to 600,000 in a market that is in the range of 10,000,000 to 12,000,000.

this observation glosses over the fact that by foreclosing the access to wires they have monopolized the business of selling Internet access to the public.

- The click-through-only approach allows the wire owners to monopolize the selling of Internet access to the public, which deprives ISPs of one of the cornerstones of their business.

- The click-through-only approach does not allow independent ISPs to compete for consumer dollars until after the cable companies have charged consumers between $40 and $50 for Internet access, which undercuts any serious opportunity to compete. There is little discretionary income to compete for.

- The click-through-only approach glosses over the severe restrictions on the products and functionalities that independent ISPs can offer to the public.

The commercial access that cable operators are offering is nowhere near what is needed to preserve the competitive, consumer-friendly, innovation rich environment we have come to know and love on the Internet. The cable owner

- chooses a small number of ISPs who can sell a restrictive set of services;

- tells the ISPs what they can and (more importantly) cannot sell, particularly streaming video and end-user generated content and applications;

- controls the customer relationship and the ability of non-affiliated ISPs to differentiate themselves; and

- places independent ISPs in a price squeeze that stifles innovation on the Internet by charging a toll for access (the charge unaffiliated ISPs must pay for carriage) that is so high that there are few resources and little market left for new applications or content.

Cable operators have a strong incentive to retard innovation that might compete directly with their core video services, or even indirectly for consumer video entertainment attention. Restricting the number of service providers and the services they can provide ensures cable companies control the flow of innovations and takes away the incentive to

develop new applications.[55] This is the antithesis of how the Internet was created. In the narrowband Internet, intramodal competition at the level of content – ensuring that content providers and applications developers were given non-discriminatory access to facilities – was highly successful in stimulating entry and innovation.

Restricting interconnecting companies to specific types of services, such as Internet access sales only, precludes a range of other intermediary services and functions provided by ISPs to the public (e.g. no ITV functionality).[56] Restriction of service to specified appliances retards competition for video services. Control of quality and functionalities and restriction of end-user applications by the network owner precludes potentially competing video services and other Internet oriented services from developing.

Network owners seek to impose uniformity in pursuit of their commercial interests and foreclose the ability of competitors to differentiate themselves by restricting privacy policy and billing and payment practices.[57] Network owners prevent real competition by

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[55] Time Warner's Term Sheet and AT&T public statements about how it will negotiate commercial access after its technical trial give a clear picture of the threat to dynamic innovation on the Internet. The companies' own access policies reveal the levers of market power and network control that stand to stifle innovation on the Internet. Under the imposed conditions, the commercial space available for unaffiliated and smaller ISPs (where much innovation takes place) is sparse and ever shrinking.

[56] Time Warner Term Sheet,

> To the extent ISP wishes to offer any functionality as part of the Service which: (a) is outside the scope of the Network Architecture; (b) requires an Operator acquire equipment or software or implement a change in the way the Operator processes, TWC shall have the right to approve such new functionality , provided however that in the event TWC approves such functionality, ISP will be obligated to reimburse for TWC its direct, out-of-pocket costs in implementing such new functionality.

[57] Goodman, Peter S. 2000. "AT&T Puts Open Access to a Test." *Washington Post.* November 23,

> Founder Joe Pezzillo worries that the competitive gap could widen as broadband brings new business models.

demanding control over valuable first screen real estate. They retain the right to approve the ISP home page and demand to have a prominent "above the fold" spot on the home page over which they retain complete control. They demand preferential bundling of services and control of cross marketing of services. Network owners stake a claim to all customer information generated by the ISP.

Network owners establish a revenue "ceiling" on independent ISPs. They demand a huge share of both subscription (65-75%) and ancillary revenues (25% or more) the ISP generates, but keep all of the ancillary revenues they generate in connection with the ISP service. At the same time, they establish a high price floor under sales of Internet service to cable TV customers. This squeezes the margin on such customers and renders potential video stream competitors vulnerable to price squeeze.

Short three-year contracts come with severe conditions, such as imposing a very short-term perspective on independent ISPs by denying the ISP a contract with terms longer than three years and denying the ISPs an inextinguishable right to provide service. The ISP does

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> He envisions AT&T making deals with major music labels to deliver its own Internet radio, with AT&T providing the fastest connections to its partners and slower connections to sites like his. "Someone is not going to wait for our page to load when they can get a competitor's page instantly," Pezzillo said.
> AT&T says it has yet to formulate business models with partners, but the software the company has designed for the Boulder trial – demonstrated at its headquarters in Englewood, Colo. Last week – clearly includes a menu that will allow customers to link directly to its partners. Company officials acknowledge that AT&T's network already has the ability to prioritize the flow of traffic just as Pezzillo fears.
> "We could turn the switches in a matter of days to be able to accommodate that kind of environment," said Patrick McGrew, an AT&T manager working on the technical details of the Boulder trial.
> Though the Boulder trial is focused on technical issues alone, AT&T will study the way customers navigate the system as it negotiates with ISPs seeking to use its network…

not have a right to continue selling the service if the system is sold and the right to sell service is not extended to systems that are acquired. In other words, the ISP can simply be shut down by the new cable owner or be prevented from extending its business to a neighboring system. A large nonrefundable deposit and minimum size requirement would keep small and niche market ISPs off the network.

Under these conditions, the commercial space left for the unaffiliated and smaller ISPs (where much innovation takes place) is sparse and ever shrinking. Hazlett and Bittlingmayer cite Excite@Home executive Milo Medin describing the terms on which cable operators would allow carriage of broadband Internet to AOL (before it owned a wire) as follows:

> I was sitting next to [AOL CEO] Steve Case in Congress during the open access debates. He was saying that all AOL wanted was to be treated like Excite@Home. If he wants to be treated like us, I'm sure he could cut a deal with [the cable networks], but they'll take their pound of flesh. We only had to give them a 75 percent equity stake in the company and board control. The guys aren't morons.[58]

The fate of Excite@Home speaks volumes about the nature of the commercial deals for access that are being voluntarily offered.

Placing these severe restrictions on independent ISPs is a strategy that protects the cable company's paramount interest in preserving its market power over video entertainment. These policies make it impossible for ISPs to directly compete for video service, but the strategic manipulation of access to the customer goes farther. The companies appear to be backsliding on their promise that there will be unfettered, click through access to the Internet. Restrictions on the flow of rich media and video content are being imposed, unless the

[58] Hazlett, Thomas W. and George Bittlingmayer. *The Political Economy of Cable "Open Access."* Joint Center, Working Paper 01-06, May, p. 17.

gatekeeper collects the full monopoly rents it expects from video. Anything that competes for that market will be squeezed at the tollgate.

V. EFFORTS TO ACCOMPLISH NONDISCRIMINATORY INTERCONNECTION AND CARRIAGE UNDER TITLE I ARE DOOMED TO FAIL

After misdefining telecommunications and information services, misinterpreting the public policy purposes the Act, and misunderstanding the impact of its proposed treatment of cable modem service on the vibrant competition in the market for Internet services, the Commission asks whether it should impose obligations on cable modem operators under its general powers of Title I. We believe that such an effort will inevitably fail to preserve the vibrant competitive environment of the Internet.

Control of essential communications functionalities conveys too much market power to the network owners to be regulated under Title I. That is why we have Title II. Cable network owners will litigate Title I regulation of communications services to death. They have already captured the first generation of high-speed Internet customers under exclusive arrangements. They are preparing to capture the second generation under highly restrictive commercial arrangements. They will capture the third generation while the Commission's Title I rules are in litigation limbo. The essential nature of the dynamic Internet will be dead and buried in the high-speed product space under a Title I approach.

The following principles should be applied to the high-speed Internet, regardless of which Title is applied.[59] Unfortunately, it will be extremely difficult to implement these principles under Title I, precisely because it lacks a clear legal basis to require non-discriminatory interconnection and carriage.

A. Design Principles for Preserving a Decentralized Dynamic Environment

There is no doubt that a complex; shared broadband environment poses greater challenges to the end-to-end principles that have created the open Internet. There is also no doubt that legal and practical measures to preserve the fundamental nature of the Internet can be implemented in this more complex environment. It requires a concerted effort by technologist and policymakers to prevent practices that would choke the Internet, but that was

[59] These basic principles were presented to the Commission in Consumers Union, 2000. They were expanded in "The Role Of Technology And Public Policy In Preserving An Open Broadband Internet," *The Policy Implications Of End-To-End,* Stanford Law School, December 1, 2000; *Who Do You Trust? AOL And AT&T ... When They Challenge The Cable Monopoly Or AOL And AT&T .... When They Become The Cable Monopoly?,* (Consumer Federation of America, Consumers Union and Media Access Project, February 2000). The principles are drawn primarily from America Online Inc., "Open Access Comments of America Online, Inc.," before the Department of Telecommunications and Information Services, San Francisco, October 27, 1999 (hereafter, AOL). At the federal level, AOL's most explicit analysis of the need for open access can be found in "Comments of America Online, Inc.," *In the Matter of Transfer of Control of FCC Licenses of MediaOne Group, Inc. to AT&T Corporation,* Federal Communications Commission, CS Docket No. 99-251, August 23, 1999. AT&T articulated a similar set of arguments in AT&T Canada Long Distance Services, "Comments of AT&T Canada Long Distance Services Company," before the *Canadian Radio-television and Telecommunications Commission*, Telecom Public Notice CRTC 96-36: Regulation of Certain Telecommunications Service Offered by Broadcast Carriers, February 4, 1997 (hereafter, AT&T Canada); Reply Comments of AT&T Corp. (CC Docket No. 98-147), filed October 16, 1998; "Comments of AT&T Corp. in Opposition to Southwestern Bell Telephone Company's Section 271 Application for Texas," *In the Matter of Application of SBC Communications Inc., Southwestern Bell Telephone Company, and Southwestern Bell Communications Services, Inc. d/b/a Southwestern Bell Long Distance for*

this very combination that created the conditions for the Internet in the first place. From the consumer point of view there is no doubt that preserving the dynamically innovative, competitive, and consumer-friendly character of the Internet is well worth the effort.

Preserving Maximum Autonomy at the Periphery

The End-to-end principle, or a close approximation that preserves decentralized activity and experimentation, continues to be a critically important organizing principle for the Internet. To the extent that deviations from the simple end-to-end principles must be made, changes in the core of the network should be minimized. Intelligence should be kept as close to the edge of the network as possible. Solutions that empower the user, as opposed to the network operator, are to be preferred. Therefore, changes in the network should allow maximum flexibility to the ends. Changes in the network should preclude as few solutions at the ends as possible. Solutions that preserve autonomy at the periphery of the network may use more resources, but should be preferred, within reasonable limits.

Transparent Network Operation:

Where network-based solutions are necessary, trusted intermediaries should be sought as implementers of changes in the network. These must be neutral third parties who can be counted upon to pursue neutral, technical solutions to problems. Control points in any solution should be minimized and the farthest out in the network as possible. They should be revealed, mapped and monitored. The amount of information that must be revealed by the end-points for the solution should be minimized. Information should be revealed to the fewest number of intermediaries possible.

Provision of In-Region InterLATA Services in Texas, Federal Communications Commission, CC Docket No. 00-4, January 31, 2000.

Problems should be prioritized. Differences between end users should be identified. At least four categories can be identified, government, public institutions, citizens, and commercial entities. Different end-points can be given different access to solutions. Helping applications should take precedence over stopping them. Solutions that increase trust should take precedence over solutions that facilitate commerce. Controlling nuisance behavior should hold lower priority than ensuring uninhibited communications; in other words, err on the side of allowing nuisance communications rather than erring on the side of suppressing valid speech.

B. Policy Principles to Preserve Non-Discriminatory Access

Advanced telecommunications services should be available to Internet service providers for interconnection and carriage on rates, terms and conditions that are just, reasonable and nondiscriminatory.

The Any Principle:

Network owners shall provide any requesting Internet Service Provider access to its broadband Internet transport services (unbundled from the provision of content) on rates, terms and conditions that are at least as favorable as those on which it provides such access to itself, to its affiliates, or to any other person. The network owner should place no limits on or provide favorable treatment to ISPs--based on affiliation, content, applications, functionality or type--in making service available to users or in allowing users to reach the Internet.

Flexibility:

Network owners should make access available on a variety of terms and conditions to meet the needs of ISPs of different types who have different needs for interconnection. ISPs

should be allowed to negotiate individual agreements within the context of a mandatory obligation for cable system owners to provide nondiscriminatory access to their communications networks. The network operator should ensure that at least one unrestricted ISP is available on its network and shall endeavor to make access for local and noncommercial ISPs available in proportion to network capacity.

Enforcement

When the Commission establishes an obligation to provide nondiscriminatory access as a telecommunications service, it should reference and rely on the criteria and standards already developed in the telecommunications area so that it can quickly implement a program of open access.

Legal Rights: Any ISP should have an enforceable right of action to seek injunctive relief from discrimination.

Governmental Rights: Government agencies (antitrust, regulatory) should have a right to prevent discrimination on their own motion.

Dispute Resolution: Dispute resolution mechanisms to resolve disputes under the existing telecommunications standards would also accomplish the goal of establishing regulatory symmetry between the dominant high-speed Internet access networks. The Commission has a process for resolving industry disputes at the Enforcement Bureau.

C. ARCHITECTURE POLICIES TO PREVENT TECHNOLOGY BIAS

In a shared last mile environment (such as a cable network), proper network and bandwidth management might require certain limitations on data transmission. Any legitimate network management policies must be free of anticompetitive intent and effect.

Efficient Interconnection:

The network operator shall support as many ISPs as technically possible and shall commit to the research, development and deployment of technologies to maximize the functionalities available and the number of ISPs that can be supported by the network. The Commission should establish a process in which cable operators work with Internet service providers to expand the number of ISPs that can be accommodated and the mechanisms for managing traffic in a technically neutral manner.

Internet service providers should be allowed to interconnect with cable networks in the most efficient, technically feasible manner available to meet their needs on terms that are technically and economically equivalent to those provided by the network owner to itself or affiliates or partners in terms of scope, quality and price. The network owner must provide the option to make a physical connection at any place where a cable company exchanges consumer data with any Internet service provider, or at any other technically feasible point selected by the requesting Internet service provider. It is vital to ensure that unaffiliated ISPs can deploy and gain access to facilities in a manner that is comparable to that the network owners afford to their affiliated ISP.

Minimum Restrictions on Service:

ISPs should be free to provide any service that is compatible with the chosen form of interconnection without prior approval from the network owner, so long as the network or service to other users or providers is not threatened. Network owners should actively work to minimize the technical limitations on access and proactively manage any limitations so as to impose the least restriction possible on open Internet communications. The network owners

should make technically feasible and reasonable modification to accommodate new functionalities and be compensated for the costs incurred.

In order to ensure technological non-discrimination technical limitations must be demonstrated by some agreed upon standard and arbitrated by an independent body (such as the Internet Engineering Task Force). Implementation of measures deemed necessary to enforce technical limitations should not discriminate between affiliated and nonaffiliated ISPs.

Nondiscrimination in Operation

Non-discriminatory change management: To the extent that standards are developed for interfacing with broadband access services, the network owners who provide these services should not be permitted to implement any non-standard, proprietary interfaces, as this would be contrary to the development of an open network of networks. In addition, any new network or operational interface that is implemented by a broadband access provider should be made available on a non-discriminatory basis.

Operational support and operating support systems: Non-discriminatory access for multiple ISPs extends to all relevant aspects of the technical and operational infrastructure, so that all business system interfaces will be open to all ISPs and performance levels will not favor the affiliated ISP. It is important to confirm that the cable operator must provide equal treatment for local content serving (caching or replication) that the affiliated and nonaffiliated ISPs can provide, specifically, no firewalls, protocol masking, extra routing delays or bandwidth restrictions may be imposed in a discriminatory manner.

D. BUSINESS PRINCIPLES TO PROMOTE COMPETITION

1. Information

Confidential treatment of information: Broadband access providers that are affiliated or have joint marketing arrangements with broadband service providers should also be required to enter into non-disclosure agreements affording the latter parties the same level of confidential treatment.

ISPs should be required to provide only the minimum technical information necessary to implement new functionalities and services in a manner that does not disrupt network management.

Information for network management purposes should not be used by network owners to develop competing services. Data passing to or from a customer to a competitive Internet Service Provider shall be considered private and proprietary and may be logged or analyzed by the cable network provider for network management only.

Other than information necessary for billing purposes, information generated in the course of doing business with the customer belongs to the customer or the ISP (subject to privacy policy), not to network operator.

2. Pricing

Paying once for service: Pricing must allow the consumer to choose any ISP they want without being required to pay for or go through the cable-affiliated ISP.

Commercial transport service: Network owners should provide "broadband Internet access transport services"--which is the transmission of data between a user and his Internet service provider's point of interconnection with the broadband Internet access transport provider's facilities--on rates that prevent vertically-integrated access providers from engaging in predatory pricing or cross subsidization of their affiliated ISP.

ISPs should be required to pay only reasonable fees for the services they consume and the network owner/operator should be allowed to earn a reasonable return for the services provided. The Commission should require a cost basis for the establishment of these rates. If the Commission does not wish to conduct a cost proceeding, it should rely on the existing leased access rates for cable channels, a procedure that has been fully litigated and implemented. In this approach, the maximum rate for ISP use of 6 MHz of spectrum should be set at the maximum implicit price paid by any entity for leased access to 6 MHz of spectrum for the delivery of cable programming. If the Commission is unwilling to conduct a cost proceeding or to rely on the existing rates for spectrum under the leased access proceeding, then the rates must be set based on publicly available retail rates. In this approach, rates should be set as a percentage of the lowest price for broadband Internet service offered to the public.

3. Bundling

Bundling of services raises concerns because it provides a great deal of leverage, especially where monopoly services are bundled with competitive services. Because cable companies exercise control over bottleneck facilities and video programming, they have both the incentive and the opportunity to bundle these facilities with their other services and offer the entire package to their customers for a single price. Pricing of transmission services should take discounting and bundling into account to avoid prices squeezes on unaffiliated ISPs.

4. Customer Relationships

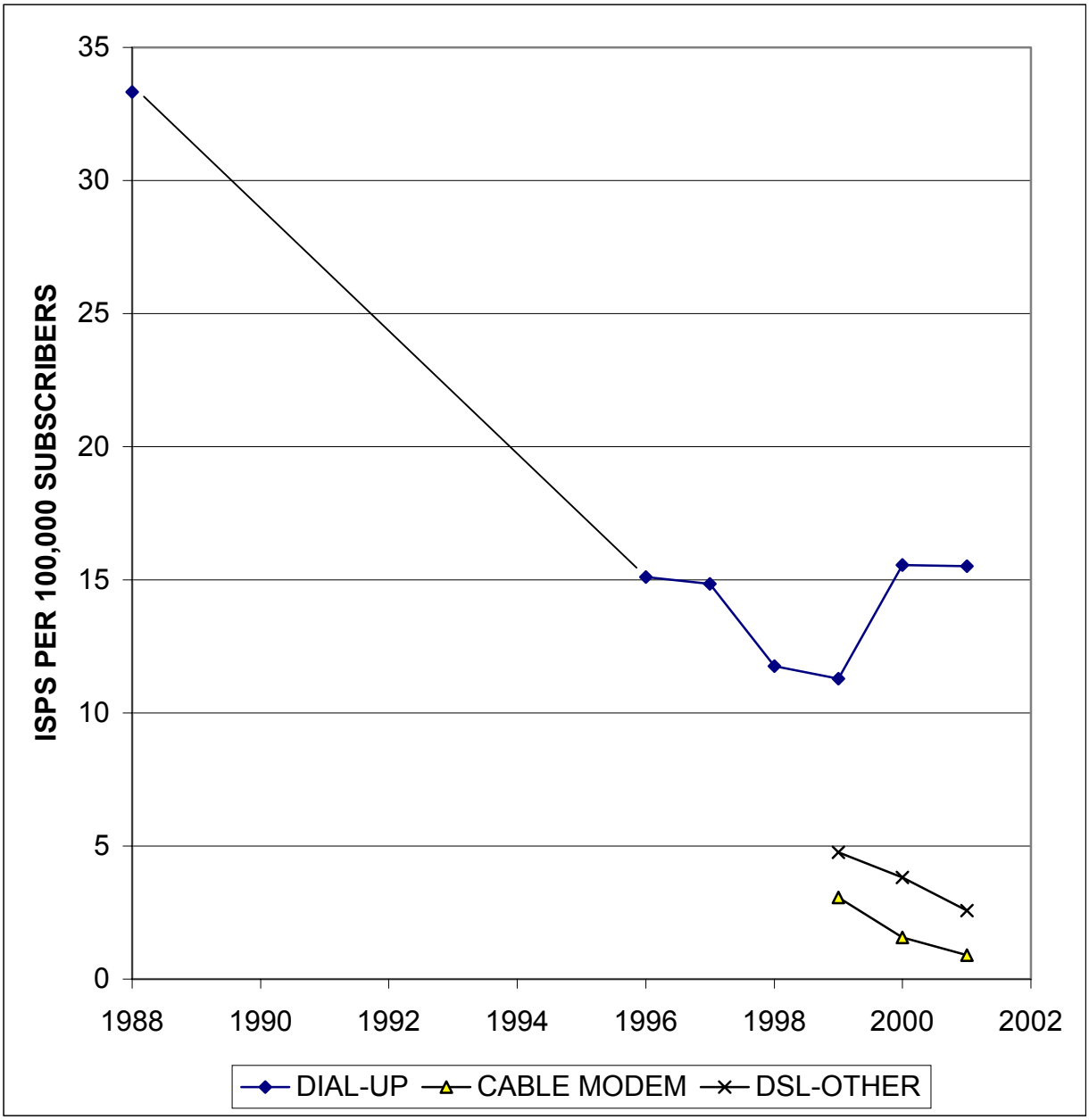
Wholesale relationship between the ISP and the Network Owner: Network owners should enter into wholesale relationships with ISPs for the purposes of the sale of transport over the network and not interfere in the relationship between the customer and the unaffiliated ISP. By establishing this commercial relationship between ISP and the network owner, the network owner cannot dictate the relationship between the ISP and the customer including all the critical aspects of that relationship to the customer – billing, marketing, boot screen, etc.

Home Page Control: The unaffiliated ISP must be granted exclusive control over its users' start pages. This ensures a direct relationship with the transmission service provider.

ISPs should receive fair treatment on the network boot screen. ISPs should control their home page and all transactions conducted through that home page. Network operators should have no ability to require ISPs to provide first screen real estate for the network operators' uses.

EXHIBITS

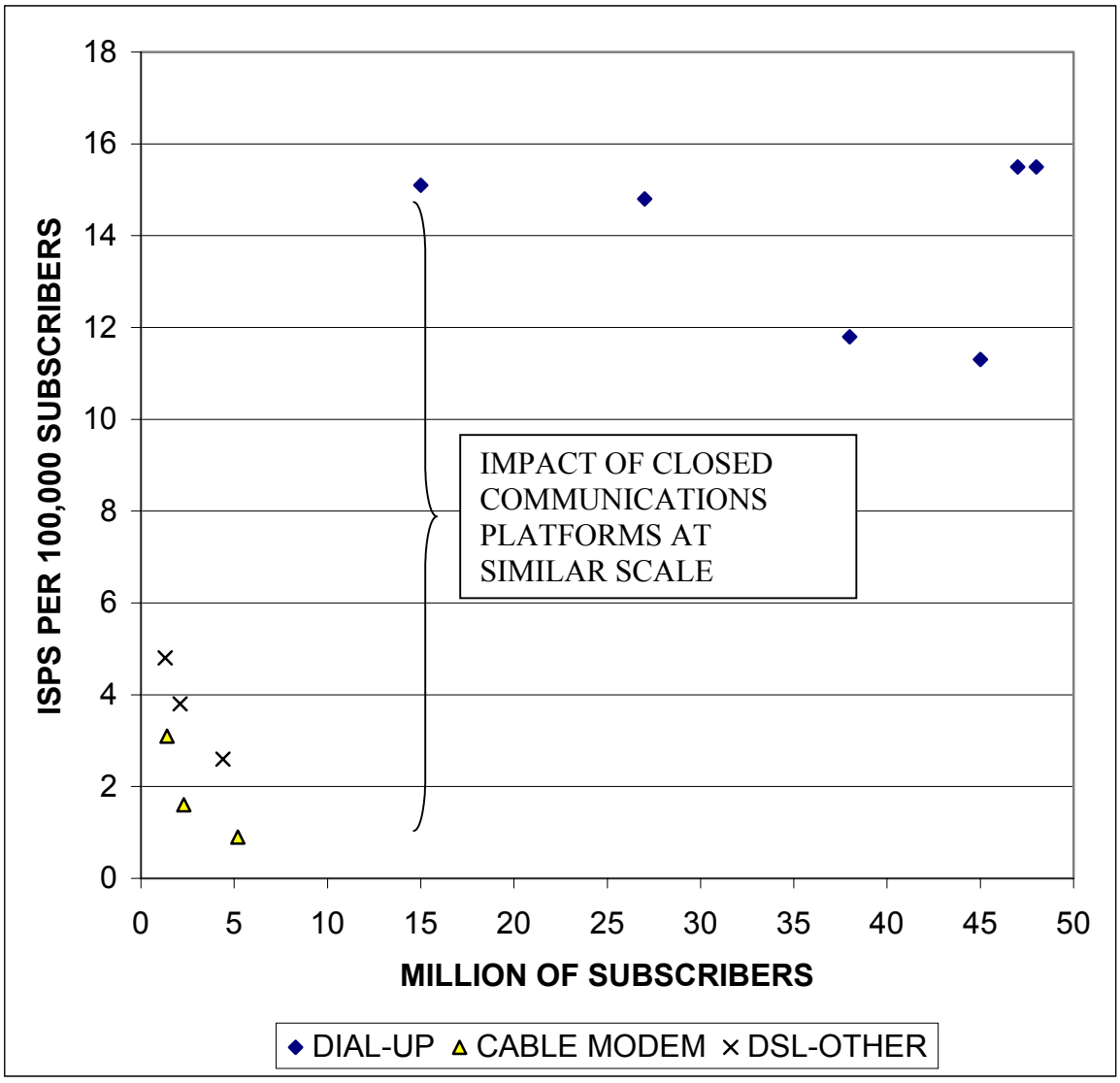
EXHIBIT 1: DENSITY OF INTERNET SERVICE PROVIDERS ACROSS TIME



Source: Recent subscriber counts can be found in National Telecommunications Information Administration, *A Nation Online*(U.S. Department of Commerce, 2002). Early counts are discussed in Mark Cooper, *Expanding the Information Age for the 1990s: A Pragmatic Consumer View* (Consumer Federation of America, American Association of Retired Persons, January 11, 1990). Since the mid-1990s, annual counts of ISPs have been published in *Network World*.

EXHIBIT 2:

DENSITY OF INTERNET SERVICE PROVIDERS BY MARKET SIZE



Source: Source: Recent subscriber counts can be found in National Telecommunications Information Administration, *A Nation Online*(U.S. Department of Commerce, 2002). Early counts are discussed in Mark Cooper, *Expanding the Information Age for the 1990s: A Pragmatic Consumer View* (Consumer Federation of America, American Association of Retired Persons, January 11, 1990). Since the mid-1990s, annual counts of ISPs have been published in *Network World*.